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Changing Personality Traits: Some Considerations from Psychotherapy Process-Outcome Research for Intervention Efforts on Intentional Personality Change

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Abstract

There is a recent debate in the field of personality development whether and how personality traits can be modified or changed over short periods of time. Whereas traditional positions highlight the relative stability of personality traits in adulthood, recent research investigates intentional personality trait change, that is, desires and attempts to change personality traits. The main goal of the present paper is to connect recent activities and intervention efforts in personality psychology with psychotherapy process-outcome research. More specifically, we argue that four empirically derived common change factors in psychotherapy research might provide some useful heuristic principles for personality change interventions in normal population that do not particularly suffer from personality disorders. We discuss the implications of the use of these principles to change personality traits and suggest some ideas for future research and practice.

Keywords: Intentional personality trait change; personality trait change interventions; psychotherapy process-outcome; general (common) change mechanisms

Introduction

Cross-sectional and longitudinal research in the field of personality development has shown that personality traits can change over longer time periods and continue to change in adulthood into old age (Allemand, Zimprich, & Hertzog, 2007; Lucas & Donnellan, 2011; Roberts, Walton, & Viechtbauer, 2006; Terracciano, McCrae, Brant, & Costa, 2005). In general, personality trait changes are small in magnitude with respect to specific age periods. However, most traits demonstrated changes close to one *SD* across the lifespan, which is typically considered a large effect in psychology (Roberts et al., 2006). Furthermore, changes in personality traits are accompanied by individual differences in change, suggesting unique patterns of change across the lifespan as the result of specific life experiences (Roberts & Mroczek, 2008). Research has also shown that the standing on traits and change in the traits can be consequential, as they predict greater success in work and family, and better health and longevity (Allemand, Steiger, & Fend, 2015; Mroczek & Spiro, 2007; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007; Steiger, Allemand, Robins, & Fend, 2014).

The fact that personality traits do change over longer time periods and that change in personality traits may bring about positive outcomes leads to the important follow-up question of *whether* and *how* people can intentionally and permanently modify or change their personality traits over relatively short periods of time. The focus of this paper is on *intentional personality change* that refers to desires and attempts to change personality traits (cf. Hudson & Fraley, 2017). It does not refer to professional attempts to actively change personality traits of clients without the clients' desires to do so. Moreover, it focuses on intended permanent changes via intervention efforts over short periods of time as opposed to the rather slow and gradual developmental changes that naturally occur with age.

The first part of this paper refers to the conceptualization of personality traits and implications of different levels of change and intervention efforts. The second part briefly presents empirical evidence for personality trait change and discusses the concept of intentional personality trait change. The third part presents some insights from the literature on psychotherapy process-outcome research. More specifically, based on the exemplary model of Grawe's (2004) general mechanisms of change, we discuss the potential role of general (common) factors for the development and implementation of future personality intervention efforts. The goal is to introduce an intervention framework that has a mainly heuristic function and that may inspire future intervention research outside of the personality disorders literature. The final part discusses some implications of the framework.

Conceptualization of Personality Traits

Personality traits are relatively *enduring* patterns of thoughts, feelings, and behaviors that *differentiate* people from one another and are elicited in situations that leave room for individual differences (e.g., Roberts & Jackson, 2008). These individual differences are often organized within the Big Five framework (John, Naumann, & Soto, 2008) that includes five broad traits on a relatively high level of abstraction: Neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Briefly, neuroticism, or conversely, emotional stability, contrasts even-temperedness with the experience of anxiety, worry, anger, and depression. Extraversion refers to individual differences in the propensity to be sociable, active, assertive, and to experience positive affect. Openness to experience refers to individual differences in the proneness to be original, complex, creative, and open to new ideas. Agreeableness refers to traits that reflect individual differences in the propensity to be altruistic, trusting, modest, and warm. Finally, conscientiousness reflects the propensity to be self-controlled, task- and goal-directed, planful, and rule following (cf. John & Srivastava, 1999).

Levels of Change

Within personality development some researchers suggest a theoretical hierarchy of changeability (Hooker & McAdams, 2003; Roberts & Pomerantz, 2004; Wrzus & Roberts, 2016). Some attributes of personality such as broad and enduring personality traits are assumed to be relatively stable and to reflect slow change processes (Roberts & Jackson, 2008). Other attributes such as rapid fluctuations in behavior, psychological states, or physiological processes may transpire over the course of days or across moments within days (Fleeson, 2001).

Two conceptual models seem particularly useful for the goal of this paper because they distinguish between different levels of change. The first descriptive model includes three levels of person and situation breadth (Roberts & Pomerantz, 2004). Broad and enduring constructs (e.g., personality traits) at the broadest level of description are assumed to be less changeable and less environmentally malleable than midlevel constructs (e.g., generalized emotional experiences, role identities, or habits). States/state expressions of traits such as momentary thoughts, feelings, and behaviors at the narrowest level may be the most variable and environmentally malleable constructs. Similarly, the culture at the broad level is less changeable than the organizational climate at the medium level or the proximal situation at the narrowest level. The level of states can be seen as the most dynamic level of personality description, as it reflects how people think, feel, or behave in a given situation in everyday life. This level involves rapid fluctuations over short periods of time as a function of internal aspects (e.g., motives and goals) and external situations (e.g., stress in a given situation) (Fleeson, 2001; Hooker & McAdams, 2003).

The second conceptual model was originally developed to describe affective processes with a focus on the temporal dimension (Rosenberg, 1998). This model includes three levels of analysis that range from broad and enduring affective traits (e.g., trait anxiety) over intermediate moods (e.g., anxious mood) to emotions in given situations (e.g., anxiety in an anxiety-provoking

situation). The proposed levels are thought to differ temporally: Affective traits such as trait anxiety or neuroticism last the longest and refer to the broad level in the model by Roberts and Pomerantz (2004). Emotions are much shorter in duration than moods or affective traits. Moreover, the model posits bidirectional relations among the levels of hierarchy but suggests that the clear organizational influence flows from the more enduring affective traits down to the more transient emotions, indicating a tendency for top-down processes. Hence, a person with a high average level of trait anxiety tends to show more anxious thoughts and feelings in a given situation. However, the opportunity clearly exists for bottom-up influences from momentary emotions to affective traits via moods. Frequent experiences of certain emotions may become more habitual in terms of moods and eventually may impart changes at the trait level (Rosenberg, 1998). This idea is consistent with the newly developed theoretical framework TESSERA (*T*riggering situations, *E*xpectancy, *S*tates/*S*tate *E*xpressions, and *R*e*A*ctions) that suggests that long-term personality development at the level of personality traits occurs due to repeated short-term, situational processes at the level of states/state expressions (Wrzus & Roberts, 2016).

Levels of Intervention

The breadth and temporal dimensions of the two discussed models are relevant for intervention efforts, as interventions can be focused on one very specific level or on broader perspectives that build on connecting several levels simultaneously (Figure 1). A first intervention strategy aims at directly targeting and altering personality traits at the broadest level. Changes at higher levels always affect the lower levels by top-down processes (Rosenberg, 1998) (Figure 1). However, such an approach seems less ideal for imparting change in the short-term for two reasons. On the one hand, broader and more enduring constructs such as traits are assumed to be less changeable over shorter time periods. From an intervention perspective, the endeavor to directly change traits would be too time-consuming and costly. On the other hand, targeting traits

directly requires very powerful interventions because the interventions have to target *patterns* of thoughts, feelings, and behaviors, and not only *single*, *specific* attributes of personality such as a concrete and well circumscribed behavior or a specific experience. It seems easier to start modifying a single behavior in a given situation than to change an entire trait that includes classes of interrelated behaviors across situations.

A second intervention strategy aims at targeting and altering the states/state expressions of traits in given situations (Figure 1). Because states are more variable and probably more responsive to intended change efforts than broader constructs such as traits, some researchers recently suggested that targeting and changing specific behaviors and experiences would prove more successful than targeting traits directly (Chapman, Hampson, & Clarkin, 2014; Magidson, Roberts, Collado-Rodriguez, & Lejuez, 2014). However, short-term change may not automatically impart lasting changes, as changes at a lower level can but do not have to affect the higher levels (Rosenberg, 1998). Only through repeated practice and reinforcement over time, new behaviors and experiences may become learned, *habitual* and automatized (Figure 1). This medium level would be the target for a third intervention strategy that focuses on changing habits (see Wood & Rünger, 2016 for more details). The process of habit formation may ultimately impart permanent changes that may be manifested in changes at the trait-level (Chapman et al., 2014). The basic idea is that the accumulation of changes at the level of states would eventually lead to personality change at the level of traits through bottom-up processes of change and habituation (Wrzus & Roberts, 2016).

Current Status on Personality Trait Change

Empirical evidence for personality trait change over shorter time periods comes from three lines of research: First, investigations of how the multitude of (natural) life experiences and socio-cultural environments impact personality traits. Second, from clinical and subclinical trials where

personality change occurs as an "accompanying effect" of interventions that were not explicitly developed for changing personality traits but primarily designed for targeting mental health problems. Third, from specific interventions that were primarily developed to help people to change their personality traits.

Life Experiences and Personality Trait Change in "Natural" Settings

Personality trait change may occur as the result of being exposed to specific life experiences, circumstances, and events. This implies that life experiences reflect "natural" settings that can modify personality traits (*socialization effects*). Indeed, there is some empirical evidence that life experiences such as military service (Jackson, Thoemmes, Jonkmann, Lüdtke, & Trautwein, 2012) or the transition from university to adult life (Lüdtke, Roberts, Trautwein, & Nagy, 2011) can lead to changes in personality traits. Furthermore, specific major life events such as marriage and divorce may also serve to explain individual differences in change (Allemand, Hill, & Lehmann, 2015; Specht, Egloff, & Schmuckle, 2011). However, the effects of life events on personality traits are in general relatively modest in magnitude and depend on the type of event and the trait (Bleidorn, Hopwood, & Lucas, 2016). Socialization effects are relevant for intervention efforts because participation in an intervention might reflect a setting that motivates intended change processes.

Although life experiences may act as a natural personality change trigger, it is also possible that the standing on given personality traits predict the occurrence of specific life events and experiences (*selection effects*). Indeed, research has shown that traits can predict the occurrence of life experiences (Luhmann, Orth, Specht, Kandler, & Lucas, 2014; Specht et al., 2011). For example, being very sociable in young adulthood increases the probability of starting the first romantic relationship (Neyer & Lehnart, 2007). Moreover, being highly neurotic may contribute to the development of anxiety and depressive experiences (Zinbarg, Uliaszek, & Adler, 2008).

Selection effects are relevant for intervention efforts because individual differences might be related to treatment motivation and response.

Personality trait change may also occur in response to how people perceive and understand events in their lives, rather than changing simply as the result of the occurrence of events. Life events can be interpreted in numerous ways. One way to understand life events is to interpret them as turning points. Self-reported turning points are subjective perceptions of long-lasting shifts or changes in how people view themselves and their lives, and learn new things about themselves and others (Wethington, 2003). As turning points are subjective, events prompting a turning point may range from the seemingly innocuous to the objectively traumatic. Another way is to learn from successful and failed experiences (Ellis, Carette, Anseel, & Lievens, 2014). Successes and failures may provide opportunities that trigger reflective processes and activities. Early evidence suggests that perceiving stressful life events as turning points or "lessons learned" is related to changes in some personality traits (Sutin, Costa, Wethington, & Eaton, 2010). In sum, personality trait change may occur in reaction to the occurrence and interpretation of life experiences and events.

Personality Trait Change as "Accompanying Effects" of Psychological Interventions

Clinical interventions usually target specific (e.g., phobia) or broad mental health problems (e.g., personality disorders) and the psychological strain that follows from the clinical symptomatology. Although personality traits may be part of the mental health problems (e.g., trait anxiety in anxiety disorders or self-esteem in depression), clinical interventions are not primarily designed with the goal of changing personality traits. In such cases, personality trait change may reflect an "accompanying effect." Indeed, there is emerging evidence for accompanying effects on personality traits through a variety of psychotherapeutic interventions across a number of domains. For example, in a meta-analysis about the efficacy of psychotherapies, Smith, Glass, and Miller (1980) found that therapy can change personality traits in addition to the primary outcomes (e.g.,

psychological functioning, well-being). More recent research demonstrates that psychotherapy and counseling interventions, sometimes in combination with medication, can modify or change personality traits (DeFruyt, Van Leeuwen, Bagby, Rolland, & Rouillon, 2006; Santor, Bagby, & Joffe, 1997; Tang et al., 2009). Moreover, research has shown that bonafide psychotherapy interventions to change "problematic" personality traits in terms of personality disorders appear to be effective (Kivlighan et al., 2015; Perry, Banon, & Ianni, 1999). A recent meta-analysis investigated the extent to which personality traits change as a result of clinical interventions (Roberts et al., 2017). The findings demonstrated that clinical interventions were associated with marked changes in personality traits (e.g., decreases in neuroticism, increases in extraversion) over an average time of 24 weeks.

In addition to these clinical interventions, a number of subclinical or other types of psychological interventions for people not necessarily suffering from psychological disorders demonstrated changes in personality traits via intervention. For example, mindfulness training (Krasner et al., 2009), skills trainings (Nelis et al, 2011; Piedmont, 2001), and meditation (Sedlmeier et al., 2012) were related to change in some personality traits in addition to the intended outcome variables. As another example, a study demonstrated that cognitive training with the intent to change cognitive skills showed an increase in openness to experience over time in a group of older adults (Jackson, Hill, Payne, Roberts, & Stine-Morrow, 2012). In sum, current work demonstrates that personality traits can be altered or changed through a variety of psychological interventions, although these interventions were not specifically designed to modify particular personality traits.

Intentional Personality Trait Change Interventions

Based on modest evidence that personality traits may change along with life experiences and as accompanying effects of psychological interventions, one may additionally examine

whether people can intentionally and permanently modify or change their personality traits over short periods of time. Change can be *intentional* or *volitional* when it is motivated by the desire to be, act and feel different, such as change that comes about as a result of a deliberate intervention, usually initiated by a troubled individual. In our case, however, people are willing and motivated to change at least some aspects of their personality without necessarily suffering from psychological and/or social problems associated with their personality. Intentional change can also be the result of self-change efforts independent of therapy, counseling, or coaching. Such efforts can be attained by self-help or self-improvement by means of self-help groups (Andersson & Cuijpers, 2009; Cuijpers, Donker, van Straten, Li, & Andersson, 2010). Self-help often utilizes publicly available information (e.g., on the Internet) or support groups (e.g., people in similar situations and/or with similar goals joining together).

There have been recent discussions about intervention efforts to intentionally change specified personality traits in desired directions (Chapman et al., 2014; Hudson & Fraley, 2017; Magidson et al., 2014; Martin, Oades, & Caputi, 2012; Mroczek, 2014). However, empirical evidence about the efficacy of such interventions is lacking so far, except for some notable examples. Recently, Martin, Oades, and Caputi (2014a) introduced a coaching intervention concept that provides a step-wise process of intentional personality change for people who want to change personality traits. They conducted semi-structured interviews with a panel of coaches/psychologists to develop specific coaching approaches for lower-order or facet-level aspects of the Big Five personality traits. A preliminary evaluation study (n = 27 in the personality coaching group, n = 27 in the waitlist control group) of their 10-week structured personality change-coaching program provides first empirical evidence for intended personality change (Martin, Oades, & Caputi, 2014b). Participation in the coaching program was associated with positive change in participants' selected personality facets and these gains maintained three

months later. A follow-up study of these participants suggests that personality changes can be maintained over four years (Martin-Allan & Leeson, 2016). Moreover, Magidson et al. (2014) proposed a set of guiding principles for a theory-driven modification of targeted personality traits by means of bottom-up change processes. The approach focuses explicitly on the trait of conscientiousness using an evidence-based behavioral intervention (i.e., behavioral activation). A case example was used to demonstrate the usability and utility of the approach but empirical evidence for its efficacy is lacking so far. Finally, Hudson and Fraley (2015, 2016a) conducted three 16-week, intensive longitudinal studies (*N*s = 135, 151 and 158) to examine whether people can volitionally change their personality traits in line with their change goals. The results of these studies demonstrate that people are able to successfully attain desired personality changes. Moreover, training people to generate implementation intentions (i.e., specific and concrete "if-then" plans) was particularly successful to catalyze people's ability to attain trait changes (Hudson & Fraley, 2015, 2017). In sum, the very few existing studies on intentional personality change are promising and suggest that intended trait changes in desired directions are possible. It is an open question though whether the trait changes that have been observed in the shorter-term studies may be maintained or rather reflect temporary changes that may revert over time. However, early evidence suggests that it may be maintained for some years.

Several preconditions should be taken into consideration with respect to intended personality change. Recently, Hennecke, Bleidorn, Denissen, and Wood (2014) suggested three preconditions for the occurrence of personality change. First, people need a desire to change their experiences and behaviors either as an end in itself or in order to achieve other goals (level of states in Figure 1). In other words, changing state expressions of traits are considered *desirable* or *necessary*. Research with mostly college-aged samples found that most people want to change at least some aspects of their personality (Allan, Leeson, & Martin, 2014; Hudson & Fraley, 2015;

Hudson & Roberts, 2014). Recent research has shown that the desire to change personality traits are not only prevalent among younger adults; older adults also express substantial desires for personality change (Hudson & Fraley, 2016b). Second, people must consider performing the new experiences and behaviors *feasible* and they must be *able* to implement the desired changes (level of states in Figure 1). These two preconditions roughly reflect the value and expectancy that determine people's commitment and likelihood of success at performing or omitting experiences and behaviors (Chapman et al., 2014; Magidson et al., 2014). The third precondition suggests that experiential and behavioral changes need to become *habitual* (path from states to habits in Figure 1) in order to constitute a stable shift in personality traits and to impart lasting change (path from habits to traits in Figure 1). Self-regulatory mechanisms such as the selection of certain environments or the modification of situational features, and change processes such as habit formation might be driving forces for this shift (Denissen, van Aken, Penke, & Wood, 2013; Wood & Rünger, 2010; Wrzus & Roberts, 2016). This precondition goes along with the idea of bottom-up change processes from states to traits via habits (Chapman et al., 2014; Magidson et al., 2014).

Intervention efforts for intended personality change are still in their infancy and conceptual frameworks are needed to develop theory-driven intervention programs. There are various preexisting scientific paradigms how to develop this field. Psychotherapy research provides a rich intervention expertise that might be useful for the development and implementation of personality change interventions. For example, one clinical paradigm might lie in the quotation of the already well-introduced bonafide psychotherapy approaches such as psychodynamic, cognitive-behavioral, or person-centered/experiential psychotherapy, and counseling traditions. Alongside the evidence-based practice movement, a further road might lie in specified treatments for particular personality traits and close adherence to carefully developed and tested manuals/treatment guidelines under

randomized controlled study conditions (see Magdison et al., 2014 for a specified treatment that made use of an evidenced-based clinical treatment approach). Finally, an additional paradigm might lie in the formulation of more general (common) intervention principles. At the risk of being single focused, the following sections focus specifically on common change factors as potential heuristic principles for intervention efforts to change personality traits.

Some Considerations from Psychotherapy Research

Psychotherapy researchers sought to determine *how* and *why* people change as a result of the therapy process and which factors *maximize* the therapy outcome. The focus varies from studying specific factors that are unique to a particular approach (e.g., exposure therapy, recognizing resistance and transference, empty-chair technique), investigating extratherapeutic factors (e.g., social support, spontaneous remission, client motivation and involvement) to identifying general factors that are common in most therapies (e.g., empathy, working alliance, expectancy) (Lambert, 2013). In the following, we focus on common factors in psychotherapy and their potential relevance for personality change interventions.

Common Change Factors in Psychotherapy

Although the therapy process generally involves a number of specific therapeutic actions, tasks, or goals that may be shared by various therapeutic approaches (e.g., behavior therapy, psychodynamic therapies, schema therapy), the interventions used to achieve them can vary from one psychotherapy orientation to another. Integrative psychotherapy research paradigms define preconditions and factors that are general across different approaches (Castonguay & Beutler, 2005; Grawe, 2004; Orlinsky, 2009; Prochaska, & Norcross, 2010; Prochaska & Prochaska, 2010; Wampold & Imel, 2015). It is assumed that psychotherapy outcomes can be largely explained by *shared principles* or *common factors* rather than by specific therapeutic techniques or factors that are unique to specific psychotherapy orientations (Lambert, 2013; Orlinsky, Rønnestad, &

Willutzki, 2004; Wampold & Imel, 2015). As such, the realization of these principles in the therapy process is a basic goal of pantheoretical psychotherapy integration (Castonguay, Eubanks-Carter, Goldfried, Muran, & Lutz, 2015; Grawe, 2004).

One exemplary integrative framework that may provide useful heuristic principles for the development and implementation of personality change interventions focuses on *general change mechanisms* of psychotherapy (Grawe, 1997, 2004; Grawe, Donati, & Bernauer, 1994; see also Caspar & Grosse Holtforth, 2010). General change mechanisms are assumed to be responsible for intermediate changes in clients' characteristics, skills, experiences, and behaviors, and eventually lead to improvements in the ultimate outcome or targeted goal of the treatment. The framework consists of four empirically derived general change mechanisms that are based on an extensive meta-analytic study of findings from controlled psychotherapy studies and naturalistic process-outcome studies (Grawe, 2004; Grawe et al., 1994; Orlinsky, Grawe, & Parks, 1994; see Prochaska & Prochaska, 2010 for similar ideas): (1) *Problem actuation* refers to the actual emotional experience of the problem in the therapy sessions; (2) *resource activation* refers to the purposeful use of the client's individual abilities and strengths for therapeutic change; (3) *clarification of meaning/motivational clarification* involves becoming aware of the motivational determinants of change such as (un)conscious goals, values, and motives to better understand or affectively experience an event, a life circumstance, or a relationship; (4) *mastery/coping* refers to concrete experiences of learning to cope with specific problematic situations using behavioral strategies (Grawe, 1997, 2004; Grawe et al., 1994). Proponents of the common change factors assume that the realization of every general change mechanism may enhance the therapists' understanding of the many proactive routes people can use to change themselves and may help to precisely target the interventions to the clients' situations (Orlinsky et al., 2004; Grawe, 1997; Flückiger, Grosse Holtforth, Znoj, Caspar, & Wampold, 2013; Wampold & Imel, 2015). In the

following, we discuss these heuristic principles in greater detail. In adapting these general factors to the field of intentional personality change we use a more adequate terminology (in brackets).

Problem actuation (discrepancy awareness). This *supportive* mechanism facilitates the therapeutic change process. The key idea is that problems or desired changes can be most effectively targeted and changed while people actually experience them. A client needs to come into direct contact with painful feelings and thoughts to overcome his or her problem (Gassmann & Grawe, 2006). Exposing the client to previously avoided stimuli in behavior therapy, focusing on emotional core themes in emotion-focused therapy, or addressing the client's problematic transferences in psychodynamic therapies are examples of problem actuation.

Here, we prefer the term *discrepancy awareness* to emphasize that being aware of or sensitive to differences between the actual and the desired personality may facilitate the change process without necessarily suffering from psychological and/or social problems associated with the actual personality. Because this change mechanism is rather context-specific, it is thought to operate primarily at narrow and medium levels of intervention efforts (Figure 1). For example, if a person wants to become more open to experience, it would be helpful to intervene while actually experiencing the costs of being low in openness in specific situations that are important to the person (Martin et al., 2014a).

Resource activation (strengths-orientation). This *supportive* mechanism is realized in interventions that focus on the sound and healthy parts of the client's abilities, skills, resources and strengths, rather than on the client's problems and deficits (Flückiger, Caspar, Grosse Holtforth, & Willutzki, 2009; Gassmann & Grawe, 2006). Working with activated strengths is assumed to initiate and maintain positive feedback circuits, foster the therapeutic relationship, reinforce the client's positive expectations for change, and increase the client's openness for the therapeutic process (Flückiger, Wüsten, Zinbarg, & Wampold, 2010). Furthermore, a trustful collaborative

quality with goal and task agreement between the counselor and the client might be an additional precondition that facilitates personality change. Working alliance as an indicator of such a collaborative quality is robustly associated with therapeutic outcomes in psychotherapy but also in other intervention settings such as educational interventions, medical treatments, and social work (e.g., Horvath, Del Re, Flückiger, & Symonds, 2011; Wampold & Imel, 2015) .

We prefer the term *strengths-orientation* to emphasize the supportive role of individual and social strengths (e.g., change motivation, social support) in intervention efforts to change personality traits. This mechanism of change can operate at every level of intervention efforts (Figure 1). For example, if a person wants to become more open to experience, other persons with high levels of openness may act as role models and thus represent social strengths. Receiving praise and reinforcement after showing a more open behavior than usual in a specific situation reflect this heuristic principle of strength-orientation.

Clarification of meaning/motivational clarification (insight). This *learning-oriented* mechanism involves the client to become aware of the motivational determinants (e.g., whishes, fears, beliefs, expectations, standards, goals, values, motives) of his or her unpleasant feelings and thoughts, to reevaluate his or her initial negative evaluation (primary appraisal; Lazarus, 1991) of situations and events, and changing the intentions in clarity, direction, or strength (Grosse Holtforth, Grawe, & Castonguay, 2006). A clarification of meaning helps a client to understand or affectively experience an event or relationship in a different (new) way. According to Grawe (2004), the experience of a new understanding can also lead to new behaviors (mastery experiences), such as new ways of coping (top-down change processes). For example, a person that has a better awareness of his or her standing on a specific trait (e.g., “my compulsiveness restricts my spontaneity”) might impact mastery experiences (e.g., “casual Friday is okay and an opportunity to learn personality related new behaviors; it is fun rather than an unnecessary event”).

The experience of mastering the problems and/or a better coping with them represents a change in the client's evaluation of the controllability of the stressor, and the resources and options for coping with situations or events (secondary appraisal; Lazarus, 1991). Clarification of meaning may occur in the context of a variety of interventions, such as classical psychoanalysis, other psychodynamic therapies, emotion-focused therapy, or schema therapy.

Here, we prefer the term *insight* to emphasize the primary role of reflective processes (e.g., self-reflection) and learning factors (i.e., cognitive and emotional understanding of beliefs, expectations, or motives) in intervention efforts to change personality traits. This change mechanism operates primarily at medium and broad levels of intervention efforts (Figure 1). For example, if a person wants to become more open to experience, it would be helpful to target potential beliefs and expectations that may hinder a change process by means of self-reflection.

Mastery/coping (practice). This *action-oriented* mechanism refers to experiences that confer a better sense of self-efficacy and change in the client's coping strategies and behaviors. It basically relates to changing behaviors by learning new behaviors and skills. Classical behavior therapy represents a prototypical approach that predominantly conceptualizes mastery/coping interventions (Grosse Holtforth et al., 2006). The experience of mastering problems and/or a better coping with problems may lead to changes in the client's evaluation of the problems, and thus a clarification of meaning (i.e., bottom-up change processes).

We prefer the term *practice* to emphasize the role of behavioral action factors in intervention efforts to change personality traits. This change mechanism operates primarily at the narrow level of intervention efforts (Figure 1). For example, if a person wants to become more open to experience, specific behavioral treatment approaches such as behavioral activation are developed to target behaviors and to realize practice (e.g., Magdison et al., 2014).

Intrapersonal perspective versus interpersonal perspective. Each general mechanism can be seen through intrapersonal and interpersonal lens. Some change processes occur primarily *within* the individual, whereas other processes occur *between* or relate to several persons (e.g., interactions with counselors or therapists, friends or family members, or other persons), or even include both perspectives (e.g., personal skills around how to better relate to others).

An Intervention Framework for Intentional Personality Trait Change Interventions

In line with Grawe (1997, 2004), we propose a framework for the development and implementation of intentional personality change interventions that has a mainly heuristic function. The framework encompasses six *unique* albeit related *intervention perspectives*, indicating that personality change can be measured, observed, and targeted through different lens simultaneously or in a sequential order. Four perspectives refer to the empirically derived general change mechanisms and they can be collapsed into two pairs of perspectives similar to semantic differentials (cf. Grawe, 2004). Discrepancy awareness and strengths-orientation form one pair of perspectives consisting of *supportive* mechanisms, whereas the *learning* perspective (insight) and the *action* perspective (practice) form another pair of perspectives. The framework also includes intrapersonal and interpersonal perspectives, as personality change processes may occur *within* and/or *between* persons. With respect to the levels of intervention, the framework is thought to operate at all levels but with an emphasis on the narrow and medium levels (Figure 1).

Multiple intervention perspectives. The basic idea of the heuristic framework is that every perspective provides (a) a unique target for specific intervention strategies and techniques, and (b) offers unique information about the ongoing change processes. Consequently, interventionists should intervene with a multi-perspective approach by simultaneously or sequentially realizing the general change mechanisms across the intervention process. This multi-perspective approach targets both bottom-up and top-down change processes that eventually

impact all change mechanisms within and between individuals over time. Whereas the four general change mechanisms highlight different views on the intervention process, these mechanisms may be highly connected with each other during the intervention sessions (Flückiger et al., 2013; Mander et al., 2014). For example, resources (strengths-orientation) may facilitate explorative behaviors (practice) that can result in novel cognitive or emotional learning experiences (insight) to deal with the intended personality change (discrepancy awareness). Alternatively, immediate actuation of discrepancies between the actual and the desired personality (discrepancy awareness) can enhance the motivation for change (insight), possibly resulting in a better coordination of preexisting resources (strengths-orientation) to change specific behaviors or experiences (practice).

Multiple change processes. Overall, the general change mechanisms are assumed to stimulate change processes that result in a lasting sequence of exploration, coordination and adaptation (cf. Grawe, 2004). The change processes may be manifested in different ways including the client's efforts to engage in new experiences and behaviors, the development of more positive views of the self and others, or the adoption of healthier ways of relating to others (Castonguay & Hill, 2012). These multiple change processes might be coordinated into two basic routes of permanent changes (Prochaska & Norcross, 2010; Prochaska & Prochaska, 2010). On the one hand, *learning-oriented* change processes primarily concern cognitive and emotional aspects that foster more awareness of a problem, a need, or one's own capability. The primary target is the cognitive-affective/reflective functioning at the medium level of intervention (Figure 1). The intervention goal here is to facilitate the experiences of a new understanding, change in maladaptive views or schemata of the self, others and the world, and to increase self-reflection (insight). On the other hand, *action-oriented* change processes foster active work on the problem, a need, or a personal capability. These processes primarily target specific behaviors and experiences at the narrow level of intervention (Figure 1). The goal here is to help clients to learn and to

reinforce new behaviors and skills such as compensatory or coping skills and to learn to behave in new social roles (practice). It is likely that the clients and the interventionists' preference will determine which route to change they use initially (Cheavens, Strunk, Lazarus, & Goldstein, 2012; Flückiger & Grosse Holtforth, 2008). Most important, however, both routes may result in lasting changes (Flückiger et al., 2013; Grawe, 2004).

Learning-oriented change processes at higher levels are assumed to facilitate personality changes at lower levels by top-down processes (e.g., awareness of the functions of a specific personality trait may facilitate the exploration and adjustment to novel behaviors). On the other hand, action-oriented change processes at lower levels may facilitate personality changes at higher levels by bottom-up processes (i.e., the formation of novel behavioral habits may initiate an adaption of basic assumptions of one's own personality). The distinction between top-down and bottom-up processes closely relates to prior change concepts such as first- and second-order changes (Watzlawick, Weakland, & Fish, 1974), or cognitive assimilation and accommodation (Piaget, 1977). For the current purpose, it is important to note that according to Piaget (1977), assimilation and accommodation are two inseparable and complementary processes that are in permanent interaction. For example, small assimilative exceptions of a trait-like behavior or a routine self-attribution (e.g., "be part of casual Friday") might impact the overall accommodation of the specific personality trait (e.g., extraversion). And vice versa, an intention to approach things differently (accommodation) and, for example, to take over more responsibility may impact the willingness to reflect single everyday situations where responsibility was delegated (assimilation). These examples demonstrate that both bottom-up and top-down change processes and their interaction may play a crucial role in the intervention process.

Implications for Future Intervention Efforts in Personality Psychology

What does the proposed framework offer for personality psychology? It presents an integrative way of thinking about the development and implementation of personality change interventions. The framework does not focus on specific intervention techniques to change personality traits or specific routes that are unique to particular treatment approaches. However, it does give concrete advice at a strategy level of intervention efforts by emphasizing the role of common factors across different treatment approaches. It provides a way of thinking about multiple intervention perspectives and multiple change processes related to general change mechanisms. A better understanding of the many routes of changing and modifying personality traits may help to precisely target the interventions to individuals. Maybe one of the most challenging findings in process-outcome research is the tremendous variety of individual change trajectories. In statistical models, this kind of variety often appear as an "error term" and sometimes has a negative connotation that has to be prevented. Nonetheless, this kind of variance may also indicate the degrees of freedom that have to be ethically guaranteed in self-responsive adults.

Realizing Common Change Factors

The concepts and findings from the personality development and psychotherapy process-outcome literatures have important implications for intervention efforts in personality psychology. First, knowledge about different levels of change and intervention (Figure 1) will help researchers and interventionists to develop theory-driven intervention concepts and strategies that facilitate intended or desired personality trait change. While some researchers suggest targeting and altering experiences and behaviors at the narrowest level (Chapman et al., 2014; Magidson et al., 2014), it is probably more effective to take all levels with both top-down and bottom-up change processes into account. The described general change factors may operate as mechanisms that connect all levels of intervention efforts, albeit with an emphasis on narrow and medium levels.

Second, personality trait change interventions may explicitly consider the general change mechanisms. As mentioned earlier, we prefer the term discrepancy awareness with respect to intended personality trait change instead of problem actuation. We assume that people primarily want to explore and change at least some specific aspects of their personality in a desired direction irrespective of whether they "suffer" from their patterns of thoughts, feelings, and behaviors in everyday life. This clearly distinguishes intervention efforts to change personality traits from psychotherapeutic interventions. In the latter case, people undergo a therapeutic intervention because of their psychological strain. Hence, the emotional awareness of individual burdens is the focus of the problem actuation, whereas the actuation of the discrepancy between the actual and desired personality is the awareness of the costs and benefits of the standing on one or more personality traits that might initiate a change exploration.

Third, intervention concepts should explicitly implement intervention strategies and change techniques that help to realize the general change mechanisms across the intervention process in order to *maximize* the intervention efforts. In the field of psychotherapy process-outcome research studies consistently demonstrated that successful therapies are characterized by a realization of all common change factors (see above). However, it is important to consider that changing personality traits should be desired or necessary and feasible (Hennecke et al., 2014; Hudson & Roberts, 2014). Interventions to change personality do only make sense when people have a desire and are able to change some aspects of their personality.

Measuring Change Processes

To date, only a few studies have explicitly examined whether people can intentionally modify or change their personality traits (cf. Hudson & Fraley, 2017). Due to the fact that most previous intervention studies focused on shorter-time periods, it is unclear whether the observed changes in personality traits reflect permanent changes or temporary changes that may revert over

time. In order to better understand the permanency of intentional personality trait change interventions, much longer longitudinal intervention studies are needed.

Furthermore, to better understand the effects of existing and future interventions to change personality traits, it is important to distinguish between broader and narrower process and outcome measurement (Figure 1). Only assessing less contextualized constructs at the broad level may fail to capture important nuances when evaluating specific situations and life contexts (cf. Allemand & Hill, 2016; Roberts & Pomerantz, 2004). Personality change processes operate over different temporal intervals (i.e., slow versus fast change processes) depending on the breadth of the construct (i.e., broad versus narrow) one considers. As such, the longitudinal assessment of personality traits and related states/state expressions should combine longitudinal methods with different time intervals. This would assist to capture the nuances of change processes in response to intervention efforts. Likewise, in order to better understand within-person processes and outcome effects, it is important to include multiple assessments and monitoring processes across the intervention process by means of intensive longitudinal methods (Bolger & Laurenceau, 2013).

Understanding Shared Change Principles

There is much to be learned about how general change mechanisms work in the context of personality trait change interventions. Along with the study of overall treatment effects using randomized control trial designs, one promising avenue is to examine self-regulatory processes (Denissen et al., 2013) and other short-term processes underlying personality development (Wrzus & Roberts, 2016) in more details by means of *microintervention designs* (cf. Flückiger et al., 2012; Strauman et al., 2013). Such designs reflect controlled laboratory as well as naturalistic investigations of a specific therapeutic aspect to generate and test hypotheses about how change mechanisms can help changing personality traits.

Two research methods are particularly useful to explicate the role of general change mechanisms. The *experimental simulation* aims at simulating or mimicking variations (via experimentation or via modeling simulations) in a given change process to understand the mechanisms of naturally occurring processes (Lindenberger & Baltes, 1995). This approach would be specifically useful in order to study common mechanisms of personality change. The *testing-the-limits approach* aims at evaluating maximum performance (Lindenberger & Baltes, 1995). This approach was originally developed to study cognitive functioning but can be adapted to the study the limits or the potential range of the behavioral repertoire. One possible personality change mechanism is to leave the habitual "comfort zone" and to test the behavioral limits, for example by acting in ways that run counter to one's habitual and trait-typical behaviors. Research has shown that demonstrating contra-trait behaviors demand more effort and self-control than habitual and trait-typical behaviors (cf. contra-trait hypothesis; Gallagher, Fleeson, & Hoyle, 2011). In other words, a highly neurotic person may find it more difficult to perform emotionally stable behaviors than neurotic behaviors. However, it is possible that testing the limits on a regular basis may broaden the behavioral repertoire and may become learned, habitual and automatized over time and may eventually lead to personality trait change through bottom-up processes of change (cf. Chapman et al., 2014; Wood & Rünger, 2016; Wrzus & Roberts, 2016).

Practical Illustrations

In the following, we provide practical examples of how researchers and practitioners can implement and realize the four general mechanisms of change in psychological interventions. For illustrative purposes, we assume that a person with low openness to new experience wants to become more open. For the discussion of the general mechanisms of change, we assume that changing openness-related experiences and behaviors are desirable and feasible. Table 1 includes examples of intervention strategies, tasks, and questions related to openness to experience.

Actuating discrepancy awareness. The idea is that personality traits can be most effectively targeted and altered while people actually actuate and experience the costs and benefits of the standing on a certain personality trait (e.g., low openness) (Table 1). One possibility to do so is to explore differences between the actual and desired personality (Martin et al., 2014a). Making discrepancies salient may help to develop realistic change goals and action plans and may facilitate personality trait change (Hudson & Fraley, 2015, 2017). Self-regulatory mechanisms in the form of strategically performed actions to decrease discrepancies between the current state and some referent standard are assumed to be driving forces for personality change (Denissen et al., 2013). Indeed, research suggests that helping people to generate implementation intentions (i.e., specific and concrete "if-then" plans) was particularly successful for people who are willing to change some aspects of their personality (Hudson & Fraley, 2015).

Activating strengths and resources to realize strengths-orientation. To realize strengths-orientation is to primarily capitalize on persons' individual and social strengths and resources (Table 1). The resources might be related to knowledge and skills, motivational readiness and preparedness for change, as well as to social support from significant others such as friends or family members. In psychotherapy and counseling, there is a broad tradition of capitalization-oriented strategies such as making hope explicit (Wampold & Budge, 2012) or understanding the client's functional behaviors (Grawe, 2004; Flückiger et al., 2010).

Targeting beliefs, expectations and motives to realize insight. To realize insight, it is necessary to primarily target people's cognitive-affective/reflective functioning (Table 1). Carefully challenging basic assumptions, beliefs, expectations and motives of the individual are likely to be critical components of gaining insights. For example, people may have specific attitudes or mindsets about the malleability of different aspects of their personality that may facilitate or impair their ability to change in desired directions (Dweck, 2008). For example, some

people believe that their personality traits are fixed ("entity" theory), whereas others believe they are malleable and can be changed through effort and education ("incremental" theory; Dweck, 2008). There is first evidence, however, that people who wanted to change specific traits tended to do so regardless of whether they believed personality traits are malleable or fixed (cf. Hudson & Fraley, 2017). Nevertheless, challenging beliefs, expectations, or values may allow self-reflection, self-exploration, and self-narration that may result in new ideas rather than in a "cementation" of the old self-organized system. One possible way to do so is to learn from successful and failed experiences. Such a self-reflective process might be facilitated by a systematic analysis of experiences and behaviors and an evaluation of their contribution to successful and failed experiences (Ellis et al., 2014). Insights are often accompanied with thoughts and self-reflections that go in very different directions, and individuals benefit from broadening the focus of their thoughts. Insights often need more time than fast and fluent answers.

Practicing targeted behaviors. To achieve change in the real world it is necessary to identify appropriate behaviors, and practice them (Table 1). Practice is focused on the persons' concrete actions and behaviors. Several psychotherapeutic techniques exist that help people learn and reinforce new behaviors and skills, such as compensatory or coping skills, and learn to behave in new roles. Possible ways to do so is by modeling other behaviors (observing others), by observing and changing self-perceptions (watching ourselves), and receiving feedback from others (listening to others; cf. Wrzus & Roberts, 2016). Another strategy is strategic role selection. To the extent that social roles are effective in changing traits (Lodi-Smith & Roberts, 2007), strategically investing in roles that consistently evoke desired traits may be efficacious. A further strategy is to test out avoided behaviors or contra-trait behaviors (Gallagher et al., 2011) by means of behavioral tests. Finally, exposure techniques in (cognitive) behavioral treatments or role-playing techniques in assertiveness training programs or behavioral activation are prototypical examples of strategies

that target practice. Generally, repeated practice and reinforcement of new behaviors, roles, and experiences may result in habituation over time and an eventual shift in personality (Chapman et al., 2014).

Conclusion

This paper provides some exemplary considerations from psychotherapy process-outcome research that may have important implications for intervention efforts in personality psychology. It does not provide specific intervention routes how to change personality traits nor how to treat specific personality-related disorders. However, it does give concrete advice at the strategy level of intervention efforts and offers some heuristic principles for the development and implementation of personality interventions. The main argument is that common factors such as general change mechanisms are potentially valuable targets for psychological interventions with the goal of intentional personality change over shorter time periods. Implementing and realizing general change mechanisms in interventions thus would help to maximize the success of intervention efforts. We hope that the proposed heuristic framework may stimulate future intervention research and practical work and illustrates how both personality science and psychotherapy research could benefit from one another.

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Figure Captions

Figure 1. Levels of change and intervention. The hierarchical model was adapted from Rosenberg (1998, p. 254) and Roberts and Pomerantz (2004, p. 408) and was slightly modified for intervention purposes. Note that solid lines refer to top-down effects and dashed lines refer to bottom-up effects. The area within the dashed lines refers to the primary operational area of the proposed conceptual framework (see text).

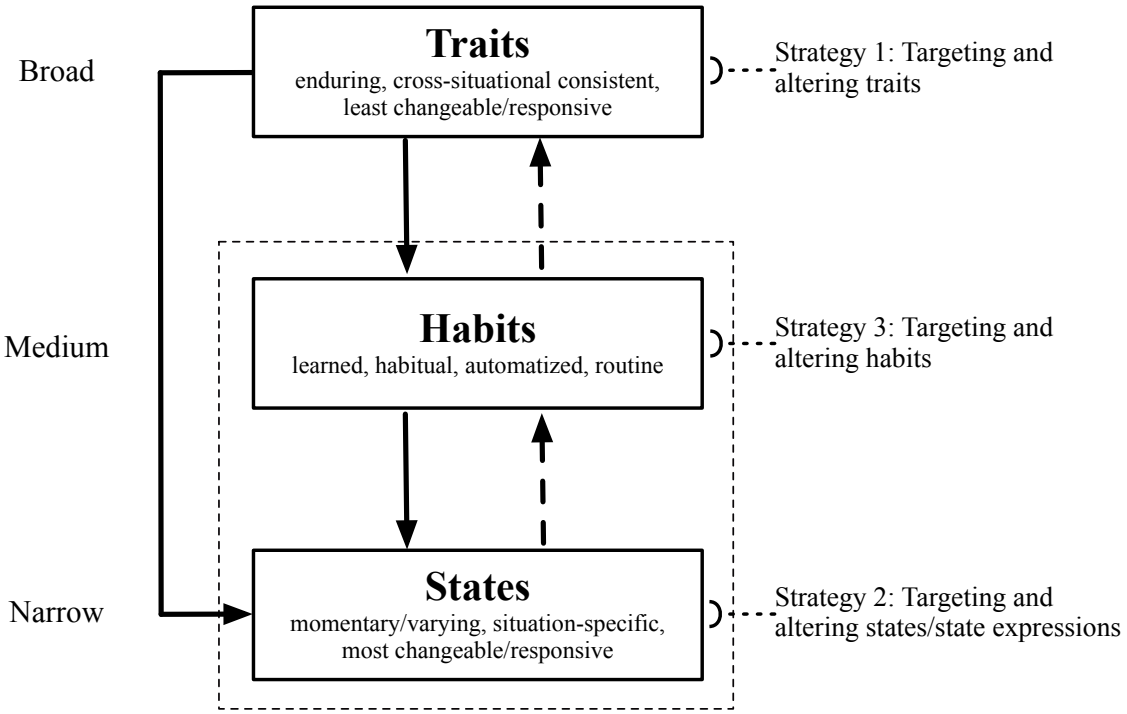
Broad
Traits
enduring, cross-situational consistent, least changeable/responsive
Strategy 1: Targeting and altering traits
Medium
Habits
learned, habitual, automatized, routine
Strategy 3: Targeting and altering habits
Narrow
States
momentary/varying, situation-specific, most changeable/responsive
Strategy 2: Targeting and altering states/state expressions

Table 1. Practical Examples for Changing Openness to Experience

General change mechanisms	Examples of intervention strategies, tasks, and questions
Actuating discrepancy awareness	• Could you make a brainstorming of all situations in which you perceived low openness? Try to scan many of your social roles and functions: Across situations, across the past, the moment and the future. • Let us focus on one example: What was the precise situation? Please try to make a precise imagery of this situation. How did you act in this situation? Where did you recognize potential challenges in your openness? What feelings and moods are associated with these challenges? Did you have negative fast thoughts about your actions like "I can't do it." or "I am not spontaneous enough". Try to really go into these situations. • Let us focus on potential discrepancies: How would you like to act ideally in the above-mentioned situations? What are the difficulties and challenges? What are the competences that you miss in such situations?
Activating strengths and resources to realize strengths-orientation	• Exploration of situational exceptions: Explore the situation and behaviors as concrete as possible. How did you act in this situation? What was the starting-point? What feelings and moods are associated with these positive experiences? Did you had positive and fast thoughts about your actions like "It is not so bad as I feared." or "Getting less attention on myself does not means that I loose my control". Is there anything that you can learn from these situations? For the future and for changes in your personality? • Exploration of role models: Do you know an open person that you know quite well. How would he or she act in the concrete situation? What would be his or her expectations and mood? Could you think to act a little bit like this person? Could you do it right now? Even if it might be a little bit strange, could you imagine remembering this

	model/voice when you are in another "openness-situation". • Validation of the already existing level of openness: Human behaviors often are not black and white such as open or not open. It is often a question about gray tones. Let us take the above-mentioned situation where you had difficulties with openness. Is there any possibility to act less open as you did? What would be absolute worst-case scenario? Could it be that you already have some (maybe vulnerable) behaviors of openness? Can you learn from this "implicitness"?
Targeting beliefs, expectations and motives to realize insight	• Reasons to get more open: What would be the concrete benefits if you would get more open? What would be the costs to be as you are? What would be the concrete costs if you would get more open? What would be the benefits to be as you are? To get a change in your openness is probably a fundamental change in your personality; take your time to reflect if you really are willing to risk the costs of change. • Is there a learning history? What are the reasons why you evaluate yourself as being not so open? Did you have negative experiences in the past? Was there a cascade of experiences? Did you sometimes have thoughts like "You can't teach an old dog new tricks"? • Why now? Why and when did you precisely decide to get more open? Was there a concrete reason?
Practicing targeted behaviors	• Testing out the concerns of openness: People sometimes have concerns that are unrealistic (e.g., asking people means to become a burden) and therefore they prevent the fearful behaviors. Testing out these (not too difficult) concerns might help people relativize the fearful aspects of the behaviors. • Openness during treatment: Concrete procedures to train openness during treatment (e.g., random interruptions, doing boring tasks, dealing with multiple opportunities) might help to activate challenges for openness and might facilitate a self-reflection what openness means in concrete situations. • Planning openness outside of treatment: Openness might be trained in

	many situations outside of training situations. Diaries and behavioral exercises (e.g., taking every day a new way to go to work; slightly varying the biological rhythm) might help to get new experiences outside of the usual routines.